

Technical Product Information No. 10.01

Product/Version	CamDisc HNVR 10, CamDisc SVR 4s, CamDisc SVR 10s, CamServer 2, CamDisc SVR 4, CamDisc SVR 10, CamTel SVR 4, CamTel SVR 10, Cam4mobile 4, Cam4mobile 10
Date	March 2010
Topic	Sierra Wireless PinPoint X Router Configuration
Short description	HeiTel-specific configuration of the Sierra Wireless PinPoint X router
Download Current Firmware Version	<p>CamDisc SVR 4s, CamDisc SVR 10s, CamServer 2: http://www.heitel.com/en/service/upgrades/firmware/camdisc-svr-s-camserver-2</p> <p>CamDisc SVR 4, CamDisc SVR 10, CamTel SVR 4, CamTel SVR 10, Cam4mobile 4, Cam4mobile 10: http://www.heitel.com/en/service/upgrades/firmware/camtel-svr-camdisc-svr-cam4mobile</p> <p>CamDisc HNVR: http://www.heitel.com/en/service/upgrades/firmware/camdisc-hnvr</p>
Download CamControl LITE Demo Version	http://www.heitel.com/en/service/downloads/CamControl LITE
Download CamControl PRO Demo Version	http://www.heitel.com/en/service/downloads/CamControl PRO

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1. Introduction

This technical product information is a quick start guide for the Sierra Wireless PinPoint X router in conjunction with mobile communications networks and HeiTel transmitters.

The Sierra Wireless PinPoint X router offers a high level of flexibility and configurability. The base variant always consists of an IP router for operation in GSM networks. The latest 3G transmission procedures like UTMS, HSDPA and HSUPA and GPS functions provide a solid basis for operation at mobile locations.

2. Requirements

The following specifications are assumed:

- **CamDisc/CamTel/CamServer/Cam4mobile** transmitters with device firmware 1.90 or higher
- 12 V DC power supply unit for HeiTel transmitters (8-30 V DC power supply for Cam4mobile)
- **CamControl LITE** or **CamControl PRO** software of version 3.90 or later as receiver and archive access software
- Sierra Wireless PinPoint X router
- 12 V DC power supply unit for PinPoint X router (power input: max.: 414 mA)
- Combined 3G/UMTS/GPS antenna
- A SIM card from the mobile network operator activated for data transfer (with dynamic IP address)
- Access data for the network of the mobile network operator
- Sierra Wireless AceManager router configuration software
- The relevant peripheral devices (cable, cameras, computers, etc.)

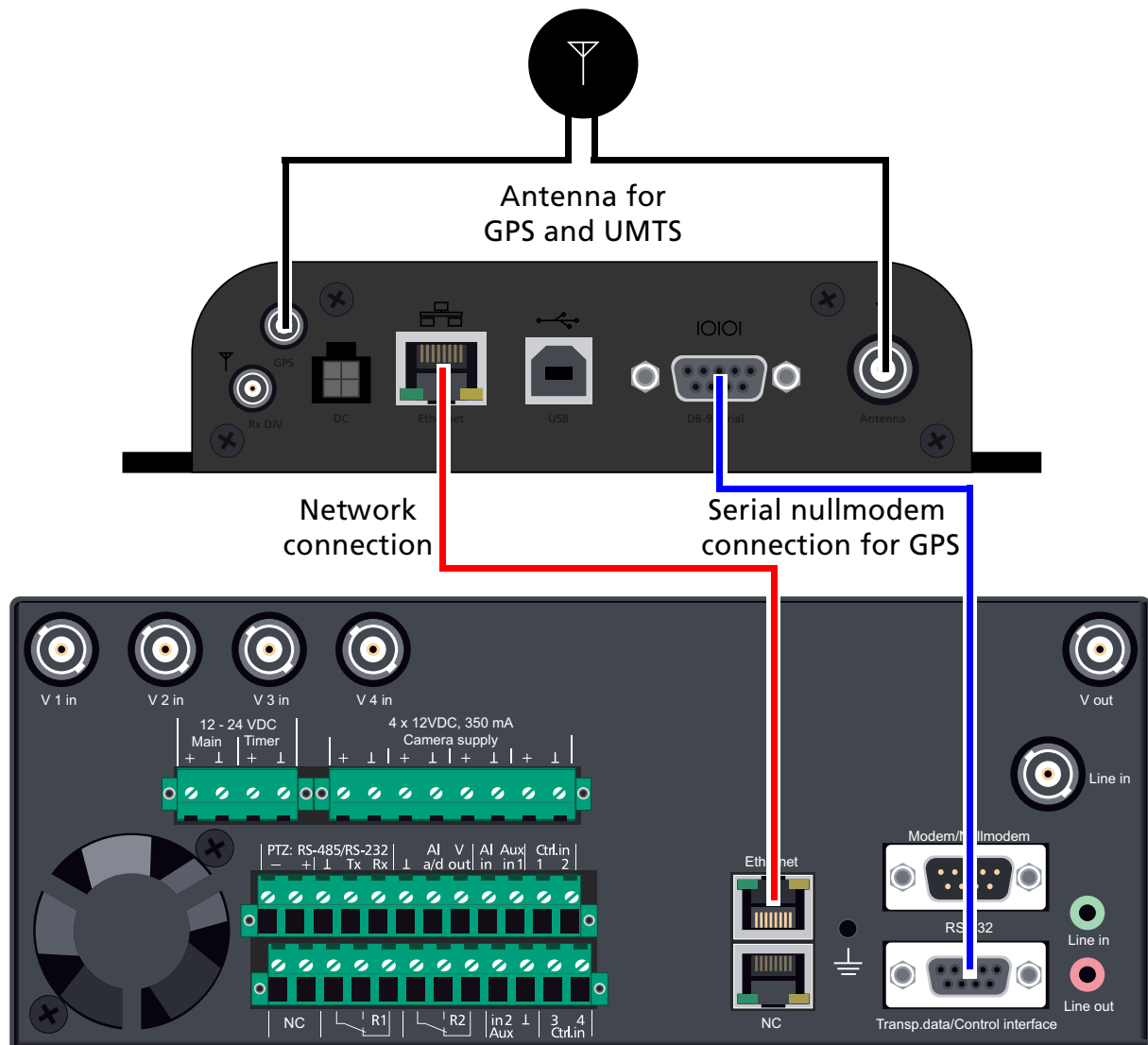
3. Router Preparation

3.1. Insert data card

Insert the SIM card into the appropriate slot at the front of your PinPoint X router.

3.2. Create Ethernet/GPS connection

Connect your HeiTel video system to the PinPoint X Router in accordance with the following diagram.



For the serial connection for the GPS data connection, ensure that you use a null model cable (if necessary with gender changer) which has the following PIN assignment as minimum circuit:

Serial interface (D-Sub 9-pin):

Sierra Wireless PinPoint X		HeiTel transmitter
Pin 2	→	Pin 3
Pin 3	→	Pin 2
Pin 5	→	Pin 5
Pin 7	→	Pin 8
Pin 8	→	Pin 7

3.3. Power supply

Connect to the power supply in accordance with manufacturer instructions.

4. PinPoint X Router Configuration Using AceManager

Before the PinPoint X router can be operated with a HeiTel system, it must be configured appropriately. To do so, install the AceManager software on the CD and launch it.



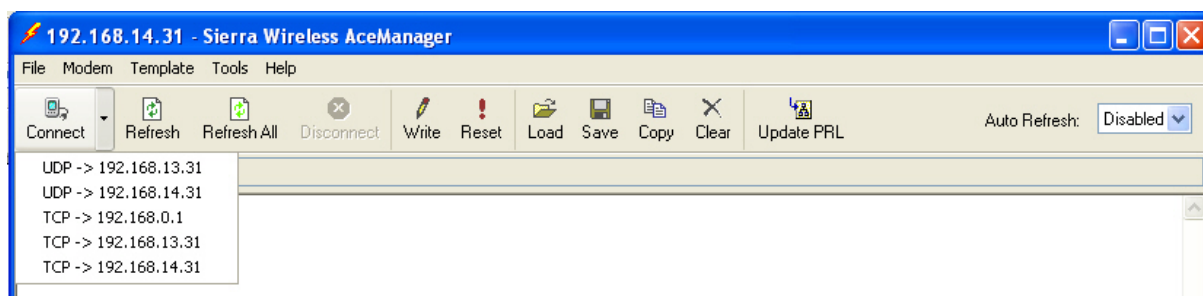
A DHCP service is active on the router. We therefore recommend that you create the initial access via a USB connection in order not to collide with other active DHCP services within a network. When the USB cable is connected for the first time, your PC demands the installation of a driver which is also contained on the CD supplied.

The menu structure on the version of AceManager you are using may differ from the version shown here in the document. The version of AceManager used in this document is "3.3.0.188 build 2009.07.06". Some of the menu items discussed here may therefore be located on other menu paths. The parameters should however be the same.

To configure the router proceed as follows:

4.1. Creating a connection to the router

Click on the arrow to the right of **Connect** in the menu bar of the AceManager software and a dropdown menu appears on which different connection types are offered. For the USB connection, select **UDP → 192.168.14.31** or **TCP → 192.168.14.31**.



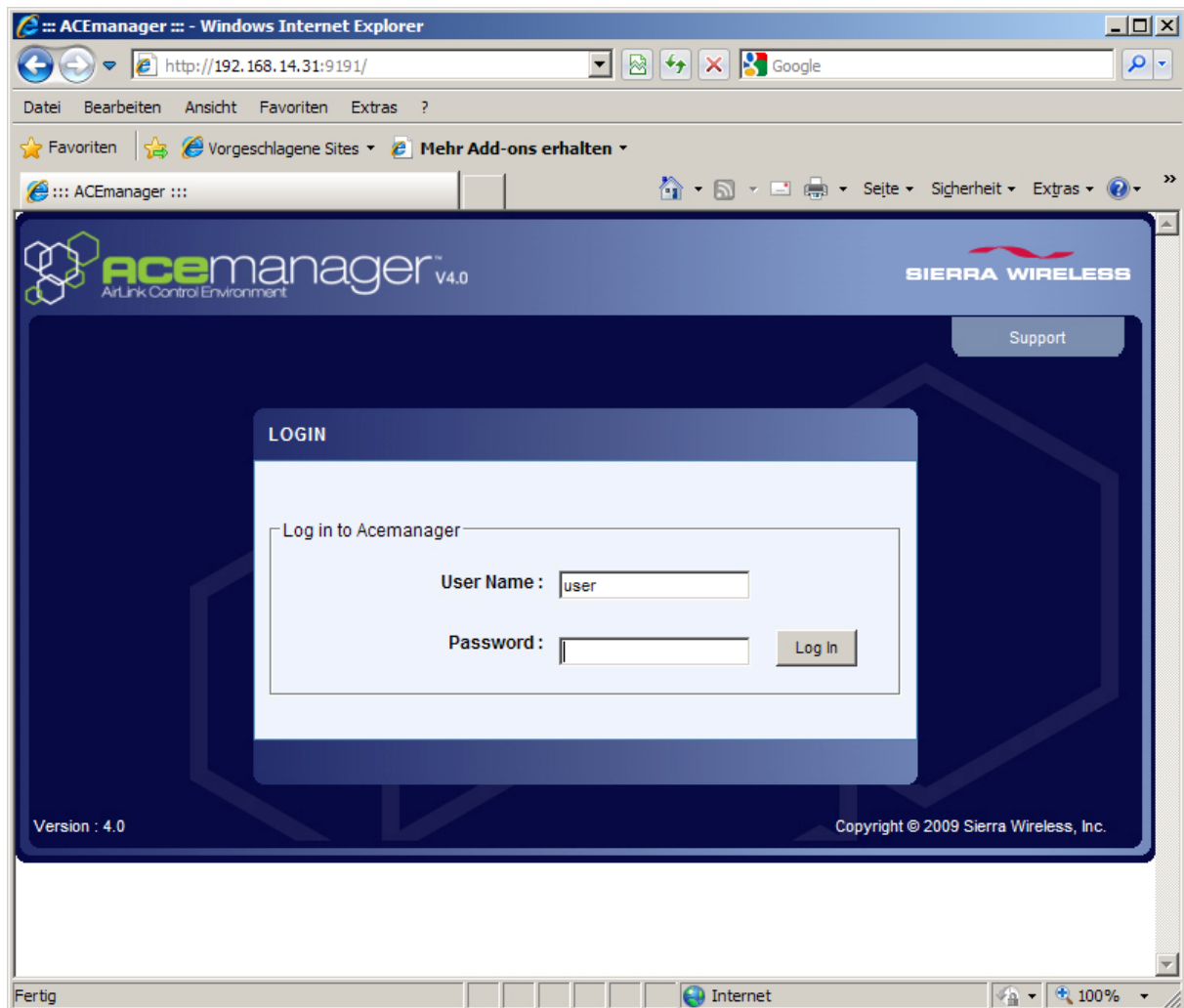
The router password is set automatically and does not need to be entered manually.

Configuration changes to the router are temporary: following a restart or power failure, default or previously stored configurations are active. To create a permanent configuration, the changes made must be transferred to the router by pressing **Write** and **Refresh All**.

Additional information on the connection set-up and on the extended scope of function can be found in the manual on the Sierra Wireless CD supplied.

Alternatively the router offers AceManager access supported by a Web browser:

- Ethernet connection to router: **http://192.168.13.31:9191**
- USB connection to router: **http://192.168.14.31:9191**



On delivery, the access data is the following in both cases:

- User Name: **user**
- Password: **12345**

4.2. Entry of APN

Once the connection has been successfully created, under the menu item **Cellular** the APN (see menu item **Set APN**) of your mobile network operator must be entered. If necessary contact your mobile network operator to obtain the necessary information.

Example: Vodafone Germany

APN: web.vodafone.de
User Name:
Password:

GROUPS	MODEM DATA			PRINTABLE VIEW
----- INFO	AT	Name	Value	New Value
----- STATUS	*NETAPN	Set APN	web.vodafone.de	<input type="text"/>
----- COMMON	*RXDIVERSITY	RX Diversity	1	<input type="text"/>
Misc	+CGDCONT	Define PDP context	1,IP,web.vodafone.de	<input type="text"/>
USB	+COPS	Set Carrier [operator] Selection	0	<input type="text"/>
Serial	+CGQREQ	Set Quality of Service Profile		<input type="text"/>
TCP	+CGQMIN	Minimum Acceptable Quality of Service Profile		<input type="text"/>
UDP				<input type="text"/>
DNS				<input type="text"/>
Dynamic IP				<input type="text"/>
PPP/Ethernet				<input type="text"/>
PassThru				<input type="text"/>
SMTP				<input type="text"/>
Other				<input type="text"/>
Low Power				<input type="text"/>
Firewall				<input type="text"/>
Port Forwarding				<input type="text"/>
----- LOGGING				
----- GPS				
Server 1				
Server 2				
Server 3				
Server 4				
Misc				
Serial Port				
----- CELLULAR				
----- IPSEC				
----- GRE				
----- I/O				
----- WIFI				
----- ???				

Depending on network availability it could take a few minutes for the router to dial up the network of your mobile network operator. If necessary, use the status indicators (see 4.6. Diagnosing connection problems) to search for the causes of errors.

4.3. Changing the network address of the LAN interface

Click on **PPP/Ethernet** to open an editing mask on which to adapt the IP address and network mask to the existing network. The IP address adjusted here (modem local IP: 192.168.13.31) is the **Gateway** address for other devices (e.g. your HeiTel transmitter) in the network of the router.

Set the **Host Public Mode** to **1-All Hosts User Private IP** to be able to use a private IP address assignment for the HeiTel transmitter.

If you are in a network with other active DHCP services, you should set the **DHCP Server Mode** to **0-Disabled**.

Alternatively, you can also use the router's DHCP function to automatically assign an IP address to your HeiTel system.

GROUPS	MODEM DATA			PRINTABLE VIEW
----- INFO	AT	Name	Value	New Value
----- STATUS	*HOSTPRIVMODE	Host Public Mode	1	<input type="text"/>
----- COMMON	*HOSTPRIVIP	DHCP Starting IP	192.168.13.100	<input type="text"/>
Misc		DHCP Ending IP	192.168.13.150	<input type="text"/>
USB		DHCP network mask	255.255.255.0	<input type="text"/>
Serial				
TCP	*HOSTPEERIP	Modem Local IP	192.168.13.31	<input type="text"/>
UDP				
DNS	*HOSTNETMASK	Ethernet Host network mask	0.0.0.0	<input type="text"/>
Dynamic IP				
PPP/Ethernet		Local USB IP	192.168.14.31	<input type="text"/>
PassThru		Host USB IP	192.168.14.100	<input type="text"/>
SMTP		Local RS232 IP	192.168.15.31	<input type="text"/>
Other		Host RS232 IP	192.168.15.100	<input type="text"/>
Low Power				
Firewall				
Port Forwarding				
----- LOGGING	*HOSTAUTH	Host Authentication Mode	0	<input type="text"/>
----- GPS	*HOSTUID	Host User ID	ZCFzUUeLycb2ug01L+3Ikw==	<input type="text"/>
Server 1				
Server 2	*HOSTPW	Host Password	ZCFzUUeLycb2ug01L+3Ikw==	<input type="text"/>
Server 3				
Server 4	*DHCPSEVER	DHCP Server Mode	1	<input type="text"/>
Misc		Host Network 2	0.0.0.0	<input type="text"/>
Serial Port		Host network mask 2	255.255.255.255	<input type="text"/>
----- CELLULAR		Host Network 3	0.0.0.0	<input type="text"/>
----- IPSEC		Host network mask 3	255.255.255.255	<input type="text"/>
----- GRE		Default Interface	0	<input type="text"/>
----- I/O		Default IP	0.0.0.0	<input type="text"/>
----- WIFI				
----- ???				

4.4. Port forwarding

If a SIM card with a permanently assigned IP address is used and the connection to the receiving software is not set up using **HTconnect**, **Port Forwarding** under the menu item of the same name of the router for the port 3000 (**CamControl LITE** and **CamControl PRO**) and if necessary for the port 80 (**CamControl MV**, **CamControl WM** and **CamControl iPhone**) must be configured in accordance with the router manual.

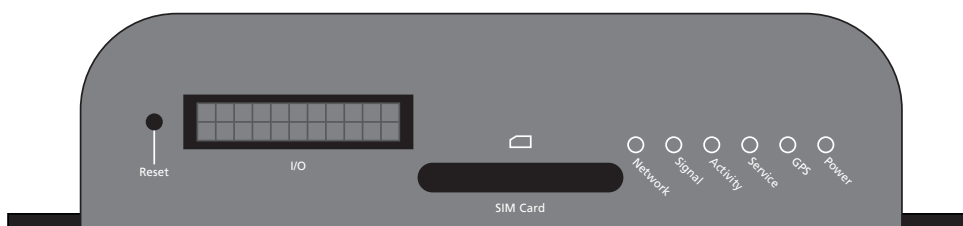
4.5. GPS settings

The PinPoint X router has an integrated GPS receiver. GPS data can be transferred to CamDisc via a serial interface. The GPS receiver must supply data in accordance with the NMEA 0183 standard with the GPRMC data record via the serial interface to the HeiTel transmitter. Therefore, in the Local/Streaming router menu, set the **Persistent GPS reports port** to **1-DB9 Serial** and check the **Persistent GPS Reports Type (hex)**, which must be set to **E1-NMEA**.

GROUPS	MODEM DATA				PRINTABLE VIEW
----- INFO ----- STATUS ----- COMMON Misc USB Serial Telnet TCP UDP DNS Dynamic IP PPP/Ethernet PassThru SMTP Other Low Power Firewall - IP Firewall - Ports Port Forwarding ----- LOGGING ----- GPS Server 1 Server 2 Server 3 Server 4 Misc <u>Local/Streaming</u> ----- CELLULAR ----- VPN Split Tunnel VPN-1 VPN-2 VPN-3 VPN-4 VPN-5	AT	Name	Value	New Value	
	*PPLATS	Local Reporting Time Interval (secs)	0	<input type="text"/>	
	*PPLATSR	Local Report Type (hex)	12	<input type="text"/>	
	*PPLATSEXTRA	Local Extra Report Ports	0	<input type="text"/>	
		Use Device ID in Local Reports	0	<input type="text"/>	
	*PGPS	Persistent GPS Reports port	1	1-DB9 Serial	
	*PGPSC	Persistent GPS Coverage	0	<input type="text"/>	
	*PGPSD	Persistent GPS Reports Delay	0	<input type="text"/>	
	*PGPSR	Persistent GPS Reports Type (hex)	E1	<input type="text"/>	
	*PGPSF	Persistent GPS Reports Frequency	1	<input type="text"/>	

4.6. Diagnosing connection problems

The status LEDs on the front of the router help you check its operation and identify errors.



For example, if a network LED is permanently on, this indicates a successfully created connection to the network of your mobile network provider. The GPS LED signals the receipt of GPS data. Further LED status messages can be found in the manual of the PinPoint X router.

Furthermore, the **STATUS** menu gives you information on a successful connection to the network of your mobile network provider.

GROUPS	MODEM DATA			PRINTABLE VIEW
----- INFO -----	AT	Name	Value	
STATUS	*NETIP	Network IP	90.186.210.226	
-----	*NETSTATE	Network State	Network Ready	
COMMON	*NETSERV	Network Service Type	HSPA	
Misc	*NETCHAN	Channel	0	
USB	*NETRSSI	RSSI (dBm)	-94	
Serial	+ECIO	EC/IO	-5.0	
TCP	*NETOP	Current Network Operator	Voda de, 26202	
UDP	+ICCID	SIM ID	89492044206436768323	
DNS	+CIMI	IMSI	26224403539376	
Dynamic IP		Host Mode	AT	
PPP/Ethernet		Host Signl Level	DCD: LOW DTR: LOW DSR: HIGH CTS: HIGH RTS: LOW	
PassThru	*NETERR	Network Error Rate	0	
SMTP		Network Bytes Sent	782	
Other		Network Bytes Rcvd	7180	
Low Power		Host Serial Bytes Sent	3415	
Firewall		Host Serial Bytes Rcvd	0	
Port Forwarding		Network IP Packets Sent	9	
LOGGING		Network IP Packets Rcvd	10	
-----		Host IP Packets Sent	16	
GPS		Host IP Packets Rcvd	35	
Server 1	*POWERMODE	PinPoint Low Power Mode State	INITIAL	
Server 2		GPS Fix	0	
Server 3		Satellite Count	0	
Server 4		Latitude	+0000000	Map
Misc		Longitude	+00000000	
Serial Port		Heading	0	
CELLULAR		Speed	0	
-----		Engine Hours	0	
IPSEC		Number of System Resets	362	
-----		IP Reject Count	0	
GRE	*POWERIN	Power IN Voltage	12.16	
-----	*BOARDTEMP	Board Temperature	25	
I/O				

WIFI				

???				

Further documentation and configuration options including tips can be found in the manual or on the manufacturer page of the router: <http://www.sierrawireless.com>

5. Transmitter Configuration (CamDisc/CamTel/CamServer/Cam4mobile)

5.1. Connection settings

In the **Connections** menu on the **Network** tab you must enter an IP address from the IP address group of the PinPoint X router. The previously configured IP address of the router (standard IP address 192.168.13.31) is the **Gateway** address for the HeiTel system.

You must also enter the **DNS Server** of the provider. If necessary, contact your mobile network provider to obtain the necessary information.

Example: Vodafone Germany

DNS1: 139.7.30.125
DNS2: 139.7.30.126

The screenshot shows the 'Recorder settings' dialog box with the 'Network (TCP/IP)' tab selected. The left sidebar contains a tree view with 'Connections' expanded and 'Network (TCP/IP)' selected. The main area contains the following settings:

- Network (TCP/IP) | External modem | Internal ISDN TA/Modem | Phone & IP numbers | Live video settings | E-Mail
- 100 MBit (00:30:26:16:cc:1c)
- ☐ Obtain an IP address automatically (DHCP)
- IP address: 192 . 168 . 13 . 30
- Subnet Mask: 255 . 255 . 255 . 0
- Gateway: 192 . 168 . 13 . 31
- Port: 3000 ?
- ☐ Obtain DNS server address automatically
- DNS Server 1: 139 . 7 . 30 . 125
- DNS Server 2: 139 . 7 . 30 . 126
- Maximum transmission speed: > 400 KB/s = 3.13 MBit/s (Maximum est. at 500 KB/s = 3.9 MBit/s)
- ☒ Web Server Automatic disconnect after 10 min
- Port: 80 ? ☒ Web API
- ☒ LAN auto detection support

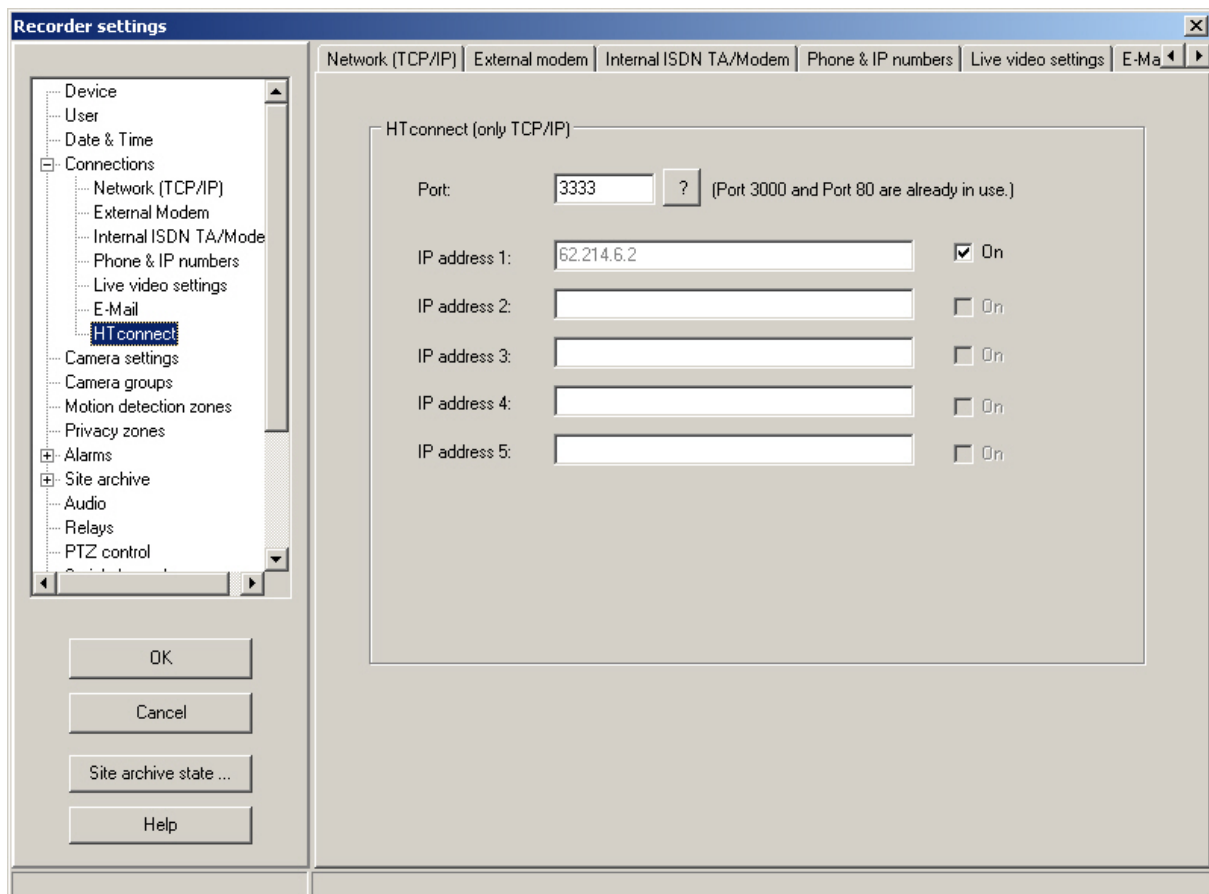
Buttons at the bottom: OK, Cancel, Site archive state..., Help.

If you wish to use the DHCP function of the PinPoint X router and the latter was configured correctly, instead of the connection settings given above you can also activate the **Obtain an IP address automatically (DHCP)** function and if necessary also the **Obtain a DNS server address automatically** function. The HeiTel system then obtains the IP address and, if necessary, the address of the DNS server from the router.

5.2. HTconnect

Since, generally speaking, no fixed IP addresses are assigned in UMTS networks and the transmitter cannot therefore be reached directly, HeiTel uses the **HTconnect** procedure with which the transmitter sets up an active connection to the receiving PC.

To use **HTconnect** under **Connections/HTconnect** the fixed IP address of the receiving PC must be entered. Any port releases on the receiving side must be taken into account here.



More information on **HTconnect**:

<http://www.heitel.com/en/products/heitel-techniques/htconnect>

Technical product information on **HTconnect**:

http://www.heitel.com/upload/downloads/en/11-technical-product-information/pi_07_03_gb.pdf

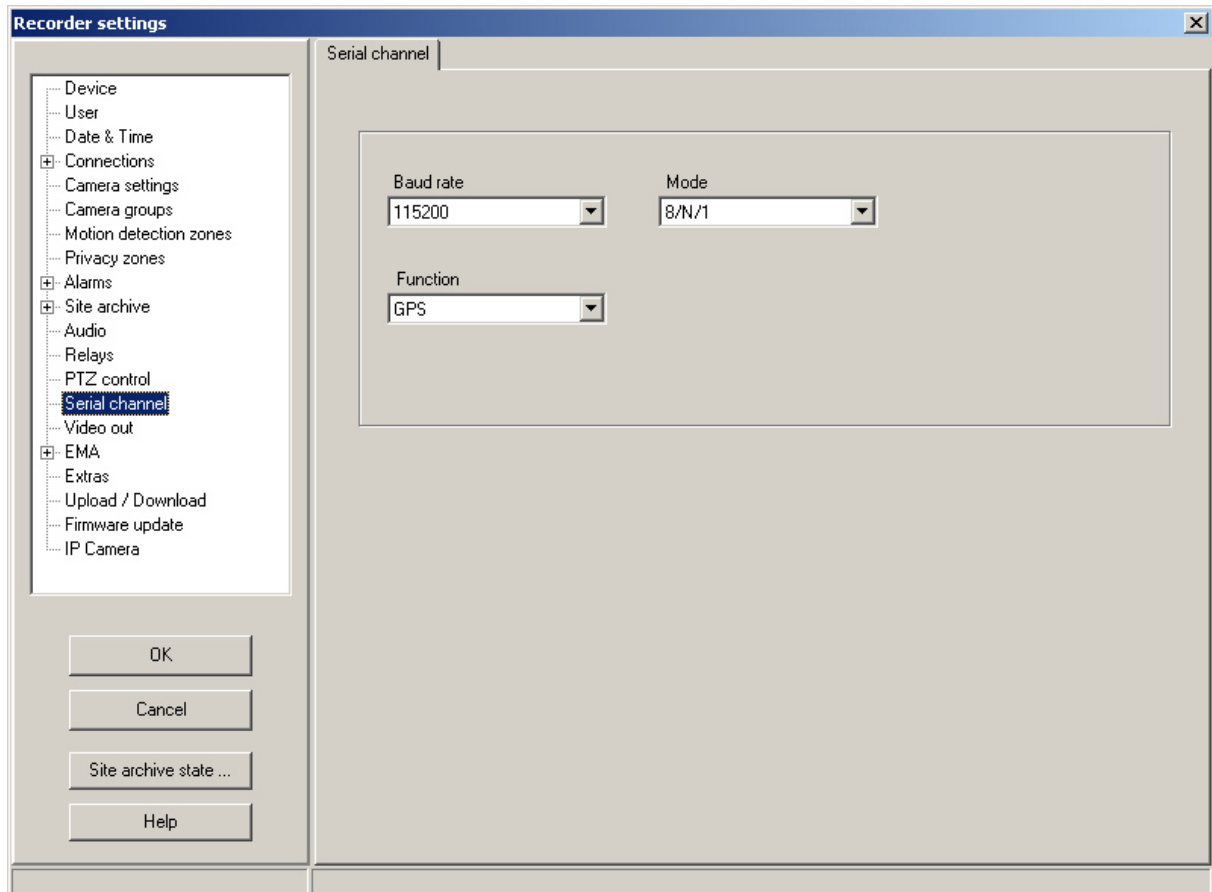
For alarm forwarding, settings may need to be made under **Connections/Phone & IP numbers**.

5.3. GPS settings

The GPS (Global Positioning System) function was primarily designed for Cam4mobile devices. The GPS receiver integrated in the PinPoint X router is connected to a Cam4mobile via the serial interface.

In the **Serial channel** menu of the HeiTel transmitter the following parameterisation is normally required:

- Baud rate: 115200
- Mode: 8/N/1
- Function: GPS



Depending on the GPS receiver, baud rate and mode can vary and must be parameterised in accordance with the manufacturer's specifications.